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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,777	06/01/2001	Robert G. Hockaday	ENERGY RD	1298

7590 09/17/2004
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EXAMINER

WILLS, MONIQUE M

ART UNIT PAPER NUMBER

1746

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/870,777	Applicant(s) HOCKADAY ET AL.	
	Examiner Monique M Wills	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-93 is/are pending in the application.
 4a) Of the above claim(s) 29-59 and 61-93 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-28 and 60 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Office Action is responsive to the Amendment filed July 8, 2004. The following rejections/objections are overcome:

- The rejection of claim 1-27 under 35 U.S.C. § 112, first paragraph, because the specification does not reasonably provide enablement for a dispersive layer.
- The rejection of claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Jones et al., U.S. Patent 6,660,425.
- The objection of claim 5 for erroneously depending on claim 4.
 - Claim 5 is newly objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following rejections are maintained:

- Claims 1-3, 6-20 & 23-28 under 35 U.S.C. § 102(e) as being anticipated by Jones et al., U.S. Patent 6,660,425.
- Claims 21-22 under 35 U.S.C. § 103(a) as being unpatentable over Jones et al., U.S. Patent 6,660,425 in view of Lewin et al., U.S. Patent 5,916,704.

A brief reiteration is recited below.

With respect to newly added claims 29-93:

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- Claims 29-59 & 61-93 are withdrawn from consideration as being directed to a non-elected invention.
- Claim 60 is rejected under 35 U.S.C. § 102(e) as being anticipated by Jones et al., U.S. Patent 6,660,425.

Allowable Subject Matter

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art is silent to a membrane comprising a catalytic surface on both sides of the membrane for acting as a gas recombination mechanism of gases evolved from within the battery case.

Election/Restrictions

Newly submitted claims 29-59 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the instant claims are related to claims 1-28 as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the apparatus of claims 29-59 has separate utility such as venting bioreactors. See MPEP § 806.05(d).

Newly submitted claims 61-93 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the instant claims are related

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to claims 61-9 as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus of claims 1-28 may be used to vent fermentation tanks.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 29-59 & 61-93 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-20, 23-28 & 60 are rejected under 35 U.S.C. 102(e) as being anticipated by Jones et al., U.S. Patent 6,660,425.

With respect to claims 1, 27-28 & 60, Jones et al. teach a membrane vent assembly comprising: a battery casing (62); a gas selective permeable membrane (col. 4, lines 41-60), that is a porous substrate adjacent the perforation (68) in the battery case (Fig. 8 & col. 9, lines

1-10); a catalyst layer 26 (col. 4, lines 15-20); a diffusion layer (28); wherein the membrane assembly combines oxygen gas and hydrogen gas to make water (col. 5, lines 20-25).

In re claims 2 & 3, the membrane passes hydrogen to the catalyst (col. 5, lines 45-49). The limitation in claims 2 & 3, with respect to the membrane passing hydrogen preferentially over other gasses of water, carbon dioxide and oxygen, is considered to be an inherent property of the membrane as set forth in the prior art, because Jones employs a membrane that allows hydrogen and oxygen to permeate the membrane (col. 5, lines 15-20). The membrane will inherently, preferentially pass hydrogen over other gases, because the atomic size of hydrogen is much smaller than the remaining gasses.

With respect to claim 6, the catalyst surface comprises platinum and palladium (col. 4, lines 15-20).

In re claims 7-14, 23 & 24, the claims are product-by-process claims, that require making the membrane by coating and plugging the pores of a substrate. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 227 USPT. In the instant case, even though the membrane was made by different processes, claims 7-14, 23 & 24 are unpatentable because it appears that the final product made by Jones is the same as the subject invention, unless Applicant's can show that the process materially changes the final product.

With respect to claims 15 & 16, the membrane (30) has a gas permeable coating of polytetrafluorethylene (col. 8, lines 25-30 & figures. 6-7).

With respect to claims 17 & 18, the membrane further comprises an electrolyte in contact with the selective permeable film (col. 6, lines 43-51). The limitation in claims 17 & 18 with respect to the membrane further comprising an electrolyte in contact with the selective permeable film, is considered to be an inherent property of the membrane as set forth in the prior art, because Jones teaches that the catalytic assembly (10), which includes the membrane, may be contained, or "dropped in", the battery cell (col. 6, lines 43-51). This embodiment will inherently provide contact between outer membrane (30) and the liquid electrolyte of the VRLA.

As to the limitation in claim 19, with respect to the membrane further comprising a hydrogen selective coating over a non-selective gas coating, is considered to be an inherent structure of the membrane assembly as set forth in the prior art, because the catalyst coating contains palladium and platinum, which are hydrogen selective precious metal catalyst. With respect to the non-selective coating, the pore size of the membrane may be adjusted so that only gas or vapor can pass through the membrane (col. 4, lines 55-60), thus providing a non-selective membrane with respect to gas, but selective with respect to liquid.

In re claim 20, the membrane comprises a gas diffusion mat or membrane filter (58) placed on the membrane (col. 8, lines 25-31).

With respect to claims 25 & 26, the membrane assembly further comprises a pressure relief valve (12). See column 3, lines 54-56.

Therefore, the instant claims are anticipated by the prior art set forth.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. U.S. Patent 6,660,425 in view of Lwein et al., U.S. Patent 5,916,704.

Jones teaches a catalytic membrane vent as described hereinabove.

The reference is silent to the membrane comprising a heat seal around the perforation in the battery case.

Lewin teaches that it is conventional to provide membrane vent assemblies with heat seals around the perforation in the battery case (col. 2, lines 19-25), in order to prevent ingress of moisture and dirt into the battery (col. 3, lines 40-45).

Therefore, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made, because even though Jones does not teach a membrane comprising a heat seal around the perforation in the battery case, Lewin teaches that such a structure prevents ingress of moisture and dirt into the battery.

Response to Arguments

Applicant asserts "The Jones catalyst layer will be of use only if both oxygen and hydrogen pass through the member for the catalytic reaction to occur and for the two to combine and form water vapor. Thus, Jones cannot, does not, and will not allow only

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hydrogen to pass through the membrane into the catalytic chamber 22". This argument is not persuasive. The claims do not require that *only* hydrogen be permitted to pass through the membrane. It is the claimed that define the claimed invention, and it is the claims, not the specification that are anticipated or unpatentably. *Constant v. Advanced Micro-Devices Inc.*, 7 USPQ 2d 1064. The claims necessitate that hydrogen is preferentially, not exclusively, permitted through the membrane. Jones employs a membrane that allows hydrogen and oxygen to permeate the membrane (col. 5, lines 15-20) that will *preferentially* pass hydrogen over other gases, because the atomic size of hydrogen is much smaller than the remaining gasses.

Regarding Applicant's contention that "Jones admits in column 6, lines 14-16, that attaching the catalyst device 10 to the pressure release valve is not possible" erroneously takes the disclosure out of context. Jones referenced to *some battery designs* inability to attach the catalyst device to the pressure relief valve. However, the reference expressly discloses, as applicant recognizes in the instant remarks on page 20, lines 18-20, in Figure 8, a catalyst device (20) attached to the pressure relief valve (12) which allows excess gas to escape rather than selectively permeable gas to vent.

Applicant argues that the teachings of Jones and Lewin cannot be combined because the two teachings are inapposite. Specifically, the Jones valve must be inside the battery casing, and Lewin requires a venting apparatus disposed outside the venting apparatus for the device to work. This argument is not persuasive. Lewin is merely relied upon to show the conventionality of providing membrane vent assemblies with heat seals around the perforation in the battery case in order to prevent ingress of moisture and dirt into the battery.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Michael Barr, may be reached at 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MW

09/14/04



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